National Weather Service
Office of Meteorology

Technical Procedures Bulletin

Subject: MRF-BASED MOS GUIDANCE - THE ALPHANUMERIC MESSAGES

Series No. 460

Science Division, **Silver Spring, MD 20910**

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U.S. DEPARTMENT OF COMMERCE **National Oceanic and Atmospheric Administration**

MRF-BASED MOS GUIDANCE - THE ALPHANUMERIC MESSAGES

by
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1. INTRODUCTION

This Technical Procedures Bulletin (TPB) describes the format and contents of the new MRF MOS messages. These messages contain forecasts of the daytime maximum/nighttime minimum temperature (max/min); time-specific 2-m temperature and dew point; mean total sky cover; maximum sustained surface wind speed; PoP for 12- and 24-h periods; probability of thunderstorms for both 12- and 24-h periods; conditional probabilities of freezing precipitation, snow, and rain mixed with snow; a corresponding precipitation type category; quantitative precipitation for 12- and 24-h periods; and snowfall amount. All elements except the temperature and dew point are valid over at least a 12-h period. Guidance is provided for projections of 24 to 192 hours for most weather elements. This product includes many changes from the original MRF MOS message (Jensenius et al. 1993). New definitions for the wind, sky cover, and precipitation type elements have been made to increase the utility of the guidance. Also, for the first time, the medium-range MOS messages contain categorical precipitation amounts, temperature, dew point, the probability of thunderstorms, and a categorical snowfall amount. The messages became operational during the 0000 UTC forecast cycle on May 31, 2000.

2. MESSAGE HEADING

```
KALB   MRF MOS GUIDANCE   12/08/2000  0000 UTC
FHR  24| 36  48| 60  72| 84  96|108 120|132 144|156 168|180 192
FRI  08| SAT 09| SUN 10| MON 11| TUE 12| WED 13| THU 14| FRI 15 CLIMO
```

The first line of the message heading shown above (see Fig. 1 also) identifies the station for which the guidance is valid, the contents of the message, and the date and forecast cycle during which the guidance was issued. In this example, the message is valid for Albany, NY (KALB). All stations are identified by a four-character identifier. The contents of the message are identified as "MRF MOS GUIDANCE." The forecast date is given in the form mm/dd/yyyy where mm is the month (1 through 12), dd is the day (1 through 31), and yyyy is the four-digit year. The forecast cycle is identified in Universal Coordinated Time as 0000 UTC. Currently, the MRF is only run once a day during the 0000 UTC cycle. This forecast was issued from the 0000 UTC MRF run on December 8, 2000.

The second line of the message denotes the forecast hour or projection. For the temperature and dew point forecasts, this projection is the specific time the forecasts are valid. For the max/min temperature, the projection gives only the approximate ending time of the periods for which the max and min temperature guidance are valid. For all other elements, the time indicates the end of the 12- or 24-h period over which the forecasts are valid.

The third line of the message denotes the day and date on which the forecast projections end. Note that the days of the week are indicated by using standard three-letter abbreviations. The heading CLIMO is for the columns containing climatic normals for the 96-120 h period (in this case, December 12). Currently, climatic normals are only available for the max/min and PoP elements. Note that no date separator (|) is placed between the last forecast date (FRI 15) and the "CLIMO" heading.

3. X/N - MAXIMUM/MINIMUM TEMPERATURE

```
KALB   MRF MOS GUIDANCE   12/08/2000  0000 UTC
FHR  24| 36  48| 60  72| 84  96|108 120|132 144|156 168|180 192
FRI  08| SAT 09| SUN 10| MON 11| TUE 12| WED 13| THU 14| FRI 15 CLIMO
X/N  22| 13  24| 14  35| 33  46| 36  39| 19  35| 21  42| 30  34 19 36
```

This line is labeled "X/N" to indicate that the daytime max and nighttime min, respectively, are the forecasts in the order found in the message. Although the forecasts are presented at consecutive 12-h intervals, each forecast is actually valid for a daytime or nighttime period. Daytime is defined as 7 a.m. to 7 p.m. Local Standard Time (LST) and nighttime is defined as 7 p.m. to 8 a.m. LST. Note that the forecast line begins with the current day's max forecast. The date line above the forecasts can be used to determine the date on which the max or min period ends. Thus, the 60-h min (14 °F) is valid for the nighttime ending at 8 a.m. Sunday, December 10, and the 72-h forecast (35 °F) is Sunday's max temperature. The normal min and max for December 12 are given in the column labeled "CLIMO." Note that these normals are based on the 30-year normals provided by the National Climatic Data Center, and are not available for all stations in the message. Also, since the message does not include a leading space before the normals, min normals of -10°F or less, or max normals of 100°F or more will appear with no spaces between them and the preceeding max or min value. Each temperature forecast is presented to the nearest whole degree Fahrenheit and three characters are allowed. A missing forecast is indicated by a 999.

4. TMP - 2-M TEMPERATURE

```
KALB   MRF MOS GUIDANCE   12/08/2000  0000 UTC
FHR  24| 36  48| 60  72| 84  96|108 120|132 144|156 168|180 192
FRI  08| SAT 09| SUN 10| MON 11| TUE 12| WED 13| THU 14| FRI 15 CLIMO
                                  ...
TMP  18| 15  19| 17  34| 38  41| 36  31| 22  30| 23  35| 32  30
```

Time-specific 2-m temperature forecasts are valid every 12 hours from 24 to 192 hours after 0000 UTC. These forecasts are valid specifically at either 0000 or 1200 UTC in contrast to the max/min forecasts which are valid for a period. Each temperature forecast is presented to the nearest whole degree Fahrenheit; a missing forecast is indicated by a 999.

5. DPT - 2-M DEW POINT

```
KALB   MRF MOS GUIDANCE   12/08/2000  0000 UTC
FHR  24| 36  48| 60  72| 84  96|108 120|132 144|156 168|180 192
FRI  08| SAT 09| SUN 10| MON 11| TUE 12| WED 13| THU 14| FRI 15 CLIMO
                                  ...
DPT  12|  8   8| 13  28| 34  38| 30  19| 15  20| 18  27| 27  22
```

Time-specific 2-m dew point forecasts are valid every 12 hours from 24 to 192 hours after 0000 UTC. These forecasts are valid specifically at either 0000 or 1200 UTC in contrast to the max/min forecasts which are valid for a period. Each dew point forecast is presented to the nearest whole degree Fahrenheit; a missing forecast is indicated by a 999.

6. CLD - MEAN TOTAL SKY COVER CATEGORIES

```
KALB   MRF MOS GUIDANCE   12/08/2000  0000 UTC
FHR  24| 36  48| 60  72| 84  96|108 120|132 144|156 168|180 192
FRI  08| SAT 09| SUN 10| MON 11| TUE 12| WED 13| THU 14| FRI 15 CLIMO
                                    ...
CLD  OV| PC  CL| PC  OV| OV  OV| PC  CL| CL  CL| OV  CL| PC  CL
```

Categorical predictions of the mean total sky cover are available in plain language for 12-h periods ending 24 to 192 hours after 0000 UTC. The categorical forecasts are displayed as CL (mostly clear), PC (partly cloudy), or OV (mostly overcast); a missing forecast is denoted by XX. The categorical forecast is determined from the 3-category probability distribution of the mean total sky cover. The categories are defined by applying the breakpoints listed below to the mean cloudiness in each 12-h period.

Total Sky Cover Categories

CL - mostly clear (mean cloudiness < 31%);
PC - mixed clouds and clear skies,
(31% ≥ mean cloudiness ≤ 68%;
OV - mostly overcast,
(mean cloudiness > 68%).

7. WND - MAXIMUM SUSTAINED SURFACE WIND SPEED

```
KALB   MRF MOS GUIDANCE   12/08/2000  0000 UTC
FHR  24| 36  48| 60  72| 84  96|108 120|132 144|156 168|180 192
FRI  08| SAT 09| SUN 10| MON 11| TUE 12| WED 13| THU 14| FRI 15 CLIMO
                                    ...
WND   5|  5  15|  5  15|  5   5| 15  25| 15  15|  5  15| 15   5
```

Categorical maximum sustained surface wind speed forecasts (WND) are given for 12-h periods ending 24 to 192 hours after 0000 UTC. The forecasts are valid for the 1200-0000 and 0000-1200 UTC periods. Each forecast indicates the range in which the highest 10-m wind speed (2-minute average) at any hour during the period is expected to occur. Forecasts of 5 kt (light), 15 kt (breezy/brisk), 30 kt (windy), or 40 kt (strong) wind speeds are displayed in the message to represent one of the four categories listed in the table below. A missing forecast will be denoted by 999.

Maximum Wind Speed Categories

Name	Range	Cat. Value
Light	0 - 12 kts	5
Breezy/Brisk	13 - 21 kts	15
Windy	22 - 33 kts	30
Strong	≥ 34 kts	40

8. P12 - PROBABILITY OF PRECIPITATION IN A 12-H PERIOD

```
KALB   MRF MOS GUIDANCE   12/08/2000  0000 UTC
FHR  24| 36  48| 60  72| 84  96|108 120|132 144|156 168|180 192
FRI  08| SAT 09| SUN 10| MON 11| TUE 12| WED 13| THU 14| FRI 15 CLIMO
                                  ...
P12  26|  7   2|  2  25| 27  40| 34  25| 14  19| 47  61| 34  35 27 29
```

The P12 forecasts are for the probability of 0.01 inches or more of liquid-equivalent precipitation (PoP) occurring during a 12-h period. The 12-h PoPs are valid for intervals from 0000-1200 or 1200-0000 UTC ending 24 to 192 hours after 0000 UTC. In the message, the forecast values are displayed under the ending time of the period. The probability is given to the nearest percent. Values range from 0 to 100%. A missing forecast value is indicated by 999. The normal observed relative frequencies of 0.01 inches or more of precipitation for December 12 for the 0000-1200 and 1200-0000 UTC periods are shown in the column labeled "CLIMO" as 27% and 29%, respectively.

9. P24 - PROBABILITY OF PRECIPITATION IN A 24-H PERIOD

```
KALB   MRF MOS GUIDANCE   12/08/2000  0000 UTC
FHR  24| 36  48| 60  72| 84  96|108 120|132 144|156 168|180 192
FRI  08| SAT 09| SUN 10| MON 11| TUE 12| WED 13| THU 14| FRI 15 CLIMO
                                  ...
P24   |      8|     25|     46|     43|     24|     61|     38    42
```

The P24 forecasts are for the probability of 0.01 inches or more of liquid-equivalent precipitation (PoP) occurring during a 24-h period. The 24-h PoPs are valid for intervals from 0000-0000 UTC ending 48 to 192 hours after the initial data time. In the message, the forecast values are displayed under the ending time of the period. The probability is given to the nearest percent. Values range from 0 to 100%. A missing forecast value is indicated by 999. Note that the normal observed relative frequency of 0.01 or more inches of precipitation for the 96-120 h period (December 12) is given under the "CLIMO" column.

10. Q12 - QUANTITATIVE PRECIPITATION AMOUNT IN A 12-H PERIOD

```
KALB   MRF MOS GUIDANCE   12/08/2000  0000 UTC
FHR  24| 36  48| 60  72| 84  96|108 120|132 144|156 168|180 192
FRI  08| SAT 09| SUN 10| MON 11| TUE 12| WED 13| THU 14| FRI 15 CLIMO
                                  ...
Q12   0|  0   0|  0   0|  0   1|  1   0|  0   0|  3    |
```

Guidance for liquid-equivalent precipitation amount (QPF) accumulated during a 12-h period is presented in categorical form. These forecasts are available for intervals from 0000-1200 and 1200-0000 UTC ending 24 to 156 hours after the initial data time. In the message, the forecasts are displayed beneath the ending projection of the period. The QPF guidance is a categorical forecast of liquid-equivalent precipitation equaling or exceeding certain specified amounts in the 12-h periods. The categories are as follows:

QPF Categories
0 = no precipitation expected;
1 = 0.01 - 0.09 inches;
2 = 0.10 - 0.24 inches;
3 = 0.25 - 0.49 inches;
4 = 0.50 - 0.99 inches;
5 = 1.00 - 1.99 inches;
6 = ≥ 2.00 inches.

Missing forecasts are denoted by 9.

11. Q24 - QUANTITATIVE PRECIPITATION AMOUNT IN A 24-H PERIOD

```
KALB   MRF MOS GUIDANCE   12/08/2000  0000 UTC
FHR  24| 36  48| 60  72| 84  96|108 120|132 144|156 168|180 192
FRI  08| SAT 09| SUN 10| MON 11| TUE 12| WED 13| THU 14| FRI 15 CLIMO
                                  ...
Q24    |      0|      0|      1|      1|      0|       |
```

Guidance for liquid-equivalent precipitation amount (QPF) accumulated during a 24-h period is presented in categorical form. These forecasts are available for intervals from 0000-0000 UTC ending 48 to 144 hours after initial data time. In the message, the forecasts are displayed beneath the ending projection of the period. The QPF guidance is a categorical forecast of liquid-equivalent precipitation equaling or exceeding certain specified amounts in the 24-h periods. The categories are as follows:

QPF Categories
0 = no precipitation expected;
1 = 0.01 - 0.09 inches;
2 = 0.10 - 0.24 inches;
3 = 0.25 - 0.49 inches;
4 = 0.50 - 0.99 inches;
5 = 1.00 - 1.99 inches;
6 = ≥ 2.00 inches.

Missing forecasts are denoted by 9.

12. T12 - PROBABILITY OF THUNDERSTORMS IN A 12-H PERIOD

```
KALB   MRF MOS GUIDANCE   12/08/2000  0000 UTC
FHR  24| 36  48| 60  72| 84  96|108 120|132 144|156 168|180 192
FRI  08| SAT 09| SUN 10| MON 11| TUE 12| WED 13| THU 14| FRI 15 CLIMO
                                  ...
T12   5|  1   1|  5   6|  8  10|  0   0|  0  12|  8  10| 03  02
```

The T12 forecasts are for the probability of thunderstorms occurring during a 12-h period. The 12-h probability forecasts are valid for intervals from 0000-1200 or 1200-0000 UTC ending 24 to 192 hours after the initial data time of 0000 UTC. The forecasts are displayed in the message beneath the ending projection of the period. The thunderstorm probability is given to the nearest whole percent. Values range from 0 to 100%. A missing forecast value is indicated by 999. Probabilities are available year-round for stations in the contiguous U.S. Forecasts are unavailable for stations in Alaska, Hawaii, or Puerto Rico because reports from the National Lightning Detection Network were used to define the thunderstorm predictand.

13. T24 - PROBABILITY OF THUNDERSTORMS IN A 24-H PERIOD

```
KALB   MRF MOS GUIDANCE   12/08/2000  0000 UTC
FHR  24| 36  48| 60  72| 84  96|108 120|132 144|156 168|180 192
FRI  08| SAT 09| SUN 10| MON 11| TUE 12| WED 13| THU 14| FRI 15 CLIMO
                                  ...
T24    |  8    |  5    | 12    |  4    |  2    | 17    | 11
```

The T24 forecasts are for the probability of thunderstorms occurring during a 24-h period. The 24-h probability forecasts are valid for intervals from 1200-1200 UTC ending 36 to 180 hours after the initial data time of 0000 UTC. The forecast values are displayed under the ending projection of the period. The thunderstorm probability is given to the nearest whole percent. Values range from 0 to 100%. A missing forecast value is indicated by 999. Probabilities are available year-round for stations in the contiguous U.S. Forecasts are unavailable for stations in Alaska, Hawaii, or Puerto Rico because reports from the National Lightning Detection Network were used to define the thunderstorm predictand.

14. PZP - PROBABILITY OF FREEZING PRECIPITATION IN A 12-H PERIOD(CONDITIONAL)

```
KALB   MRF MOS GUIDANCE   12/08/2000  0000 UTC
FHR  24| 36  48| 60  72| 84  96|108 120|132 144|156 168|180 192
FRI  08| SAT 09| SUN 10| MON 11| TUE 12| WED 13| THU 14| FRI 15 CLIMO
                                  ...
PZP   1|  0   1|  0   5|  8   0|  2   4| 12  15| 38  14|  6   4
```

Conditional probability of freezing precipitation (given that precipitation is occurring) forecasts are available for 12-h intervals ending 24 to 192 hours after 0000 UTC. The 12-h forecast periods are from either 1200-0000 UTC or 0000-1200 UTC. Freezing precipitation is defined as the occurrence of freezing rain or drizzle, ice pellets (sleet), or any mixture of freezing rain, drizzle, or ice pellets with other precipitation types during the 12-h period. The probabilities are given to the nearest whole percent, and values range from 0 to 100%. Missing values are indicated by 999. These probabilities are used in producing the categorical TYP forecast described in Section 17. The PZP guidance is transmitted only during the period of September 1 - May 31. Because of the rarity of the freezing rain or sleet events, many stations do not have forecast equations for the PZP category. In these cases, the PZP line will not appear in the message at any time of the year.

15. PSN - PROBABILITY OF SNOW IN A 12-H PERIOD (CONDITIONAL)

```
KALB   MRF MOS GUIDANCE   12/08/2000  0000 UTC
```

```
FHR  24| 36  48| 60  72| 84  96|108 120|132 144|156 168|180 192
FRI  08| SAT 09| SUN 10| MON 11| TUE 12| WED 13| THU 14| FRI 15 CLIMO
                                  ...
PSN  98| 98  99| 99  66| 18  12| 15  45| 68  62| 41  31| 35  69
```

Conditional probability of snow (given that precipitation is occurring) forecasts are available for 12-h intervals ending 24 to 192 hours after 0000 UTC. The 12-h forecast intervals are from either 1200-0000 UTC or 0000-1200 UTC. Snow is defined as the occurrence of a pure snow event, that is, snow, snow showers, snow grains, or snow pellets or any combination of those elements. The probabilities are given to the nearest whole percent, and values range from 0 to 100%. Missing values are indicated by 999. These probabilities are used in producing the categorical TYP forecast described in Section 17. The PSN guidance is transmitted only during the period of September 1 - May 31.

16. PRS - PROBABILITY OF RAIN MIXED WITH SNOW IN A 12-H PERIOD (CONDITIONAL)

```
KALB   MRF MOS GUIDANCE   12/08/2000  0000 UTC
FHR  24| 36  48| 60  72| 84  96|108 120|132 144|156 168|180 192
FRI  08| SAT 09| SUN 10| MON 11| TUE 12| WED 13| THU 14| FRI 15 CLIMO
                                  ...
PRS   0|  1   0|  1  18| 11   7| 15  18|  3   8| 13   9|  9   8
```

Conditional probability of rain mixed with snow (given that precipitation is occurring) forecasts are available for 12-h intervals ending 24 to 192 hours after 0000 UTC. The 12-h forecast intervals are from either 1200-0000 UTC or 0000-1200 UTC. Rain mixed with snow is defined as the occurrence of both rain (or drizzle) and snow (see definition in Section 15) in the 12-h period. The probabilities are given to the nearest whole percent, and values range from 0 to 100%. Missing values are indicated by 999. Although the conditional probability of rain is not included in the message, it can be inferred since the sum of the probabilities of freezing precipitation (Section 14), snow (Section 15), rain and snow mixed, and rain is 100%. These probabilities are used in producing the categorical TYP forecast described in Section 17. The PRS guidance is transmitted only during the period of September 1 - May 31.

17. TYP - PRECIPITATION TYPE FORECASTS (CONDITIONAL)

```
KALB   MRF MOS GUIDANCE   12/08/2000  0000 UTC
FHR  24| 36  48| 60  72| 84  96|108 120|132 144|156 168|180 192
FRI  08| SAT 09| SUN 10| MON 11| TUE 12| WED 13| THU 14| FRI 15 CLIMO
                                  ...
TYP   S|  S   S|  S   S|  R   R|  R   S|  S   S|  Z   S| RS   S
```

The TYP guidance in the message gives the conditional forecast precipitation type (if precipitation occurs) for 12-h periods ending 24 to 192 hours after the initial hour of 0000 UTC. The forecast is indicated by one or two characters where "Z" represents freezing precipitation (freezing rain, freezing drizzle, ice pellets (sleet), or any report of these elements mixed with other precipitation types), "S" represents snow (snow, snow grains, snow pellets, or snow showers), “RS” represents rain and snow mixed, and "R" represents liquid precipitation (rain or drizzle). A missing forecast is denoted by "X." The precipitation type guidance is transmitted only during the period of September 1 - May 31.

18. SNW - SNOWFALL AMOUNT CATEGORICAL FORECAST

```
KALB   MRF MOS GUIDANCE   12/08/2000  0000 UTC
FHR  24| 36  48| 60  72| 84  96|108 120|132 144|156 168|180 192
FRI  08| SAT 09| SUN 10| MON 11| TUE 12| WED 13| THU 14| FRI 15 CLIMO
                                  ...
SNW    |      1|      0|      0|      0|      1|       |
```

Categorical forecasts of snow amount are available in the message for 24-h periods ending approximately 24 to 144 hours after 0000 UTC. Since observations from the cooperative observer network are used to define the event, the valid times are only approximations. The categories are denoted as follows:

Snow Amount Categories
0 = no snow or a trace expected;
1 = 1 to < 2 inches expected;
2 = 2 to < 4 inches;
4 = $\geq$ 4 to < 6 inches;
6 = $\geq$ 6 to 8 inches;
8 = $\geq$ 8 inches.

A missing forecast is denoted by 9; forecasts are disseminated only for the period of September 1 - May 31.

19. AVAILABILITY

The MRF-based objective forecast message is produced once each day (at approximately 0800 UTC) and is distributed in 10 alphanumeric messages transmitted to NWS AWIPS and Family of Services (FOS) circuits. Six messages contain guidance for stations in the contiguous U.S. and Puerto Rico, three contain guidance for Alaskan sites, and one contains guidance for stations in Hawaii. The following two-line WMO Headers are used:

REGION	WMO HEADING
Pacific	FEPA20 KWNO MEXPAO
Northeast	FEUS21 KWNO MEXNE1
Southeast	FEUS22 KWNO MEXSE1
North Central	FEUS23 KWNO MEXNC1
South Central	FEUS24 KWNO

	MEXSC1
Rocky Mountain	FEUS25 KWNO MEXRM1

REGION	WMO HEADING
West Coast	FEUS26 KWNO MEXWC0
Southeast Alaska	FEAK37 KWNO MEXAJK
Central Alaska	FEAK38 KWNO MEXAFC
Northern Alaska	FEAK39 KWNO MEXAFG

Separate WMO Headings are used to distribute MRF-based MOS guidance for a subset of stations to the Air Force Weather Agency (AFWA). These messages are only distributed over military communication lines. Twenty-seven messages contain guidance for stations in the contiguous U.S., three contain guidance for Alaskan sites, one contains guidance for stations in Hawaii, and one contains guidance for Puerto Rico. The following two-line headers are used:

REGION	WMO HEADING
Contiguous U.S.	FEUS30 KWNO MEXFxx, where xx=01 through 27
Alaska	FEAK30 KWNO MEXFxx, where xx=50 through 52
Pacific	FEPA30 KWNO MEXF70
Caribbean	FECA30 KWNO MEXF80

20. STATION LIST

As of August 2001, the MRF MOS guidance was available for 1060 stations in the United States. Guidance for another 346 sites will be added by late 2001. The reader may check the following home page for the complete station list by WMO Heading:

http://www.nws.noaa.gov/tdl/synop/stadrg.htm

As of September 2001, the Air Force messages are available for 273 stations in the United States. The complete station list, organized by WMO Heading, can be found on the following home page:

http://www.nws.noaa.gov/tdl/synop/afstadrg.htm

21. REFERENCES

Jensenius, J. S.,Jr., J. P. Dallavalle, and S. A. Gilbert, 1993: The MRF-based statistical guidance message. NWS Technical Procedures Bulletin No. 411, NOAA, U.S. Dept. of Commerce, 11 pp.

Figure 1. Sample 0000 UTC message.

```
KALB   MRF MOS GUIDANCE   12/08/2000  0000 UTC
FHR  24| 36  48| 60  72| 84  96|108 120|132 144|156 168|180 192
FRI  08| SAT 09| SUN 10| MON 11| TUE 12| WED 13| THU 14| FRI 15 CLIMO
X/N  22| 13  24| 14  35| 33  46| 36  39| 19  35| 21  42| 30  34 19 36
TMP  18| 15  19| 17  34| 38  41| 36  31| 22  30| 23  35| 32  30
DPT  12|  8   8| 13  28| 34  38| 30  19| 15  20| 18  27| 27  22
CLD  OV| PC  CL| PC  OV| OV  OV| PC  CL| CL  CL| OV  CL| PC  CL
WND   5|  5  15|  5  15|  5   5| 15  25| 15  15|  5  15| 15   5
P12  26|  7   2|  2  25| 27  40| 34  25| 14  19| 47  61| 34  35 27 29
P24    |      8|     25|     46|     43|     24|     61|     38    42
Q12   0|  0   0|  0   0|  0   1|  1   0|  0   0|  3    |
Q24    |      0|     0 |     1 |     1 |     0 |       |
T12   5|  1   1|  5   6|  8  10|  0   0|  0  12|  8  10| 03  02
T24    |  8    |  5    | 12    |  4    |  2    | 17    | 11
PZP   1|  0   1|  0   5|  8   0|  2   4| 12  15| 38  14|  6   4
PSN  98| 98  99| 99  66| 18  12| 15  45| 68  62| 41  31| 35  69
PRS   0|  1   0|  1  18| 11   7| 15  18|  3   8| 13   9|  9   8
TYP   S|  S   S|  S   S|  R   R|  R   S|  S   S|  Z   S| RS   S
SNW    |      1|     0 |     0 |     0 |     1 |       |
```